

METHOD AND SYSTEM FOR INTELLIGENTLY FORWARDING
MULTICAST PACKETS

ABSTRACT OF THE DISCLOSURE

A routing system utilizes a layer 2 switch interconnecting several routers to intelligently forward multicast packets throughout an internet exchange carrying multicast content. The layer 2 switch performs protocol snooping to extract a lookup key that is based on network layer protocol information. The lookup key is uniquely formulated to support either shared or explicit source distribution trees. The lookup key is used to query a forwarding memory that returns an outgoing port index. The outgoing port index points to one or more outgoing ports that are eligible to receive the multicast packet. The outgoing ports are also connected to the neighboring device(s) that are designated to receive the multicast packet. The routing system also supports real time maintenance and updating of the forwarding memory based on the periodic exchange of control messages. The routing system is configured to support PIM routers operating in PIM SM or PIM SSM modes. However, the routing system can also support other multicast protocols and/or standards.

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